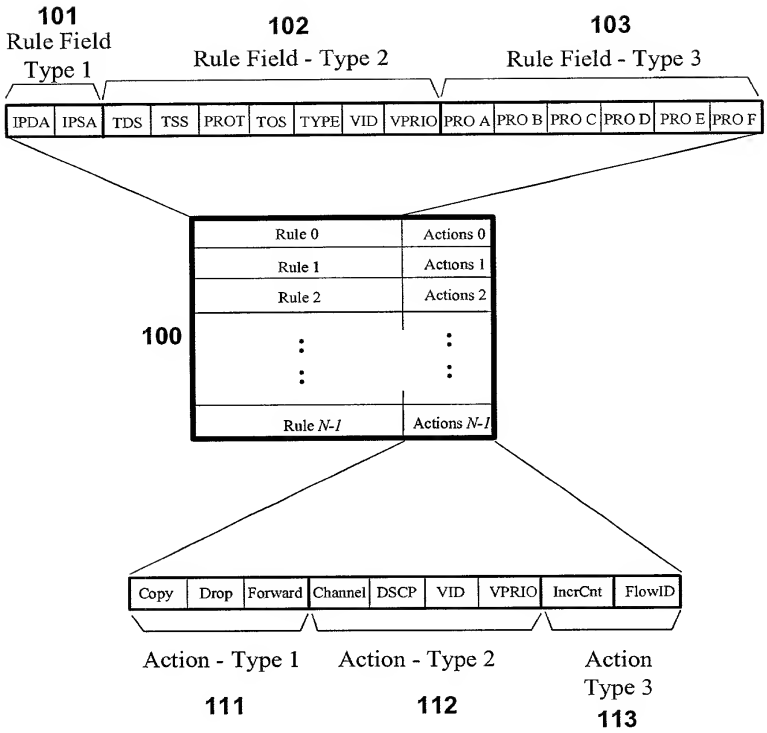
101
Rule Field
Type 1
102
Rule Field - Type 2
103
Rule Field - Type 3
IPDA
IPSA
TDS
TSS
PROT
TOS
TYPE
VID
VPRIO
PRO A
PRO B
PRO C
PRO D
PRO E
PRO F
100
Rule 0
Actions 0
Rule 1
Actions 1
Rule 2
Actions 2
Rule N-1
Actions N-1
Copy
Drop
Forward
Channel
DSCP
VID
VPRIO
IncrCnt
FlowID
Action - Type 1
111
Action - Type 2
112
Action
Type 3
113

Fig. 1

Rule Field Type 1

IPDA	Value[31:0]	Mask [4:0]	Mask All	Equal
IPSA	Value [31:0]	Mask [4:0]	Mask All	Equal

Fig. 2(a)

Rule Field Type 2

TDS	Value [7:0]	Mask [7:0]	Equal
TSS	Value [7:0]	Mask [7:0]	Equal
RPOT	Value [7:0]	Mask [7:0]	Equal
TOS	Value [7:0]	Mask [7:0]	Equal
TYPE	Value [15:0]	Mask [15:0]	Equal
VID	Value [11:0]	Mask [11:0]	Equal
VRPIO	Value [2:0]	Mask [2:0]	Equal

Fig. 2(b)

Rule Field Type 3

				Global programmable start byte address
PRO A	Value [7:0]	Mask [7:0]	Equal	StartByte A
PRO B	Value [7:0]	Mask [7:0]	Equal	StartByte B
PRO C	Value [7:0]	Mask [7:0]	Equal	StartByte C
PRO D	Value [7:0]	Mask [7:0]	Equal	StartByte D
PRO E	Value [31:0]	Mask [31:0]	Equal	StartByte E
PRO F	Value [31:0]	Mask [31:0]	Equal	StartByte F

Fig. 2(c)

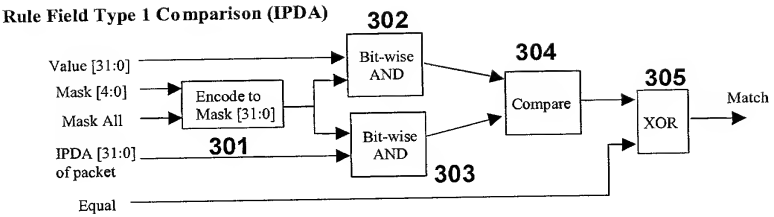

Fig. 3(a)

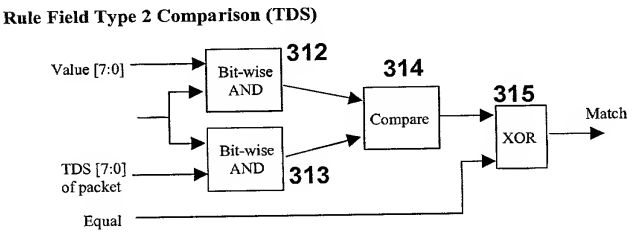

Fig. 3(b)

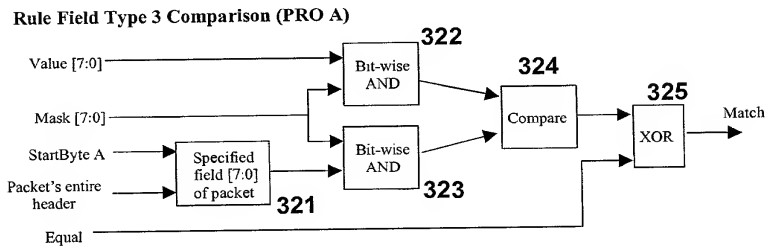

Fig. 3(c)

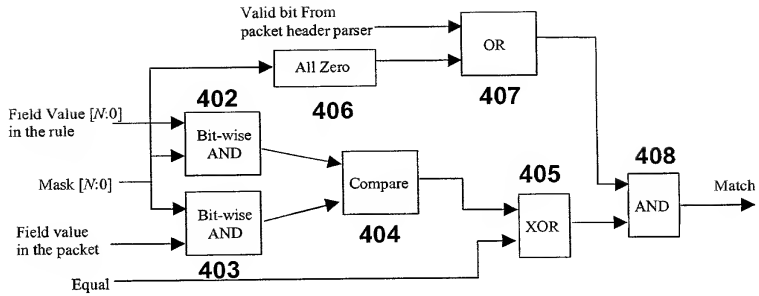

Fig. 4

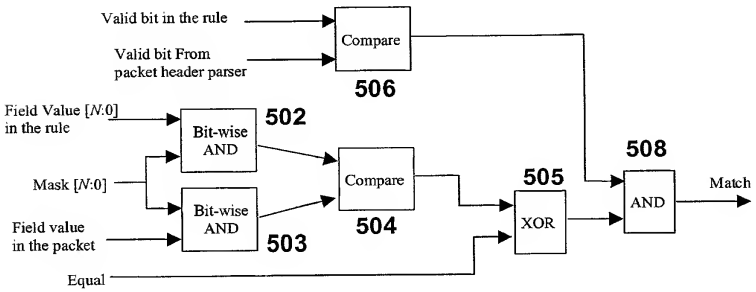

Fig. 5

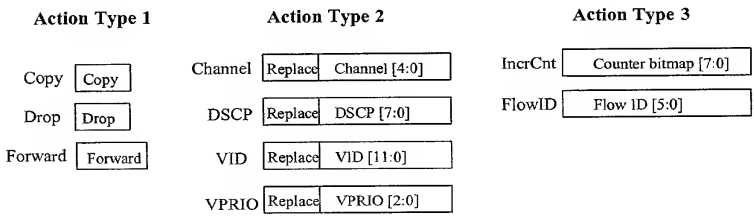

Fig. 6

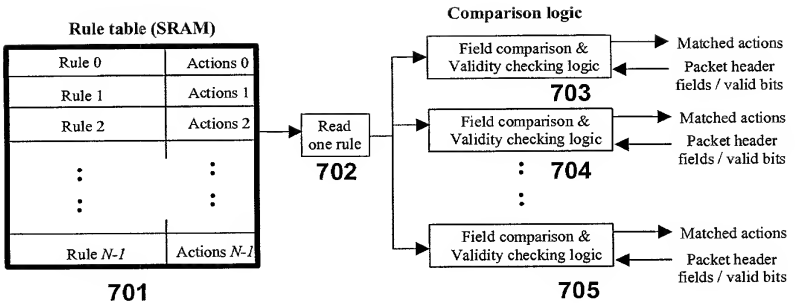
Rule table (SRAM)
Rule 0
Actions 0
Rule 1
Actions 1
Rule 2
Actions 2
Rule N-1
Actions N-1
701
Read one rule
702
Comparison logic
Field comparison & Validity checking logic
703
Field comparison & Validity checking logic
704
Field comparison & Validity checking logic
705
Matched actions
Packet header fields / valid bits
Matched actions
Packet header fields / valid bits
Matched actions
Packet header fields / valid bits

Fig. 7

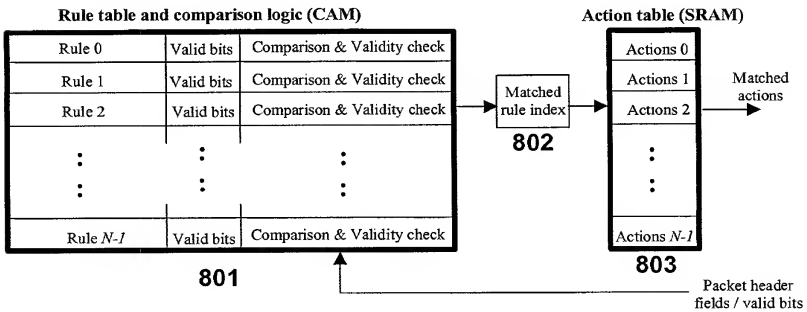
Rule table and comparison logic (CAM)
Rule 0
Valid bits
Comparison & Validity check
Rule 1
Valid bits
Comparison & Validity check
Rule 2
Valid bits
Comparison & Validity check
Rule N-1
Valid bits
Comparison & Validity check
801
Matched rule index
802
Action table (SRAM)
Actions 0
Actions 1
Actions 2
Actions N-1
803
Matched actions
Packet header fields / valid bits

Fig. 8